

NON-PROVISIONAL APPLICATION FOR UNITED STATES PATENT

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Title: LABEL HAVING IMPROVED AESTHETIC APPEARANCE

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SPECIFICATION

LABEL HAVING IMPROVED AESTHETIC APPEARANCE

This application claims priority from Provisional Application Serial No. 60/433,414 filed December 13, 2002, the disclosure of which is fully incorporated herein by reference.

Field of the Invention

5 This invention relates to labels for containers, and more particularly to a label having improved aesthetic qualities.

Background of the Invention

Printed labels are widely used on containers to identify the particular products, manufacturers, and brand names associated with the products in those containers. Conventional labels for containers include labels
10 facestocks made from paper, films, and other polymeric materials. Paper-based labels typically have an opaque appearance, whereby the contents of the container are at least partially concealed from view. While paper-based labels are generally inexpensive, they are susceptible to damage, such as by
15 abrasion or scuffing and generally exhibit poor adhesion in wet or humid environments. Opaque labels have also been made from polymeric materials, including thin films. While these materials offer improved resistance to

scuffing and abrasion, as well as improved adhesion in humid conditions, opaque polymeric labels also conceal at least a portion of the product held within the container.

A recent trend in labeling containers has been towards utilizing clear thin film labels which provide a "label-less" or "printed-on" look. These labels have the advantages of improved resistance to scuffing and abrasion, and good adhesion in moist environments, and further provide improved aesthetic appearance of the containers to which they are applied. Both paper-based and polymeric labels are commonly imprinted with various graphics and text which may be applied to the labels by various methods including gravure printing, lithography, flexography, screen printing, and other methods suitable for creating the desired indicia on the labels.

Container labels described above have typically been provided in "cut-and-stack" form or roll form for application to containers by automated labeling equipment. In the cut-and-stack form, a plurality of individual labels are provided in a stack to a labeling machine, generally in a magazine, whereby the machine is configured to apply individual labels from the stack to containers as they are moved past a labeling station. The cut-and-stack labels may be provided with a pre-applied adhesive for securing the label to the containers, or the adhesive may be applied by the labeling machine immediately prior to affixing the label to the container. This method of supplying and applying labels to product containers has generally been utilized with paper-based labels.

Labels may also be provided in roll form wherein a plurality of discrete labels are provided on an elongate web of backing material that has been wound into a roll. The web of backing material is directed past a peel tip

at a labeling station to transfer the label from the backing material to the individual product containers. This method of supplying labels to containers has typically been utilized with thin film and other polymeric labels. Adhesive is generally pre-applied to the labels and may be pressure sensitive or heat
5 activated to adhere to the containers.

Polymeric labels, including thin film labels, have generally not been provided in cut-and-stack form due to various difficulties associated with providing polymeric labels in a stacked form. In particular, the polymeric materials are susceptible to developing static charges which cause the
10 individual labels to cling to one another and to the labeling equipment, thereby hindering accurate and repeatable application of the labels to the product containers. Another factor which has hindered the provision of polymeric labels in stack form is that adhesives used in conventional cut-and-stack applications do not work well with polymeric materials. Furthermore, conventional cut-and-
15 stack adhesives are not transparent. This is particularly problematic when the polymeric materials are transparent because the adhesives may be visible through the transparent label, thereby depreciating the aesthetic affects.

Labels provided to labeling equipment in cut-and-stack form may advantageously be applied to individual containers at very high rates, such as
20 1200 labels per minute or more. These high application rates are well suited for use with high-speed packaging lines. While the costs of polymeric labels, including thin film labels, has been gradually decreasing, paper-based labels are generally considered to be the least expensive labeling material. On the other hand, the polymeric-based labels, particularly clear, thin film labels, are
25 generally associated with improved product appearance.

There is thus a need for a product label which provides improved aesthetic appearance, while being economically competitive to paper-based labels and capable of application to products in high speed manufacturing lines.

Summary of the Invention

5 The features and objectives of the present invention will become more readily apparent from the following Detailed Description taken in conjunction with the accompanying drawings.

Brief Description of the Drawings

 The accompanying drawings, which are incorporated in and
10 constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description given below, serve to explain the invention.

 FIG. 1 is a plan view depicting an exemplary label of the present invention;

15 FIG. 2 is cross-sectional view of the label of FIG. 1, taken along line 2-2;

 FIG. 3 is a cross-sectional view depicting another exemplary label of the present invention;

 FIG. 4 is a cross-sectional view of another exemplary label of the present invention;

 FIG. 5 is a perspective view of an exemplary container including a label of FIG. 1; and

 FIG. 6 is a perspective view of labels of FIG. 1 arranged in a stack.

Detailed Description

Referring to FIG. 1, there is shown an exemplary label 10 of the present invention. The label includes a facestock 12, which may be cut or otherwise formed into a discrete label shape, and visible indicia 14, 16, 18 selectively applied to a first side 20 of the facestock 12 to create letters, numbers, borders, decorative designs, or any combination thereof. In the exemplary embodiment, the facestock 12 is formed from cellulose material, commonly known as cellophane, but it will be understood that the facestock 12 may be formed from any other material suitable for making labels, such as paper or other polymeric materials, such as polyethylene, PVC or other suitable materials. The visible indicia 14, 16, 18 of the exemplary label 10 are created by applying ink to the facestock 12 by methods known in the art, such as screen printing, gravure printing, lithography, flexography, or any other method suitable method for creating the desired indicia 14, 16, 18. The indicia 14, 16, 18 may also include hot stamped foil or embossed images applied to the facestock 12.

With further reference to FIG. 2, the exemplary label 10 also includes one or more layers of tactile coating 24 which are selectively applied to discrete areas of the first side of the facestock 12 to create distinct raised portions on the label 10. In the exemplary embodiment shown, the label 10 further includes a primer layer 22 applied to substantially cover the first side 20 of facestock 12, whereafter indicia 14, 16, 18 and selectively applied tactile coating layers 24 are applied to the facestock 12. Alternatively, the indicia 14, 16, 18 and tactile coating

layers 24 may be applied to selected areas of the facestock 12 without first applying a primer layer 22 to cover the first side 20.

In the exemplary embodiment shown in FIGS. 1 and 2, the selectively applied tactile coating layers 24 are applied to areas proximate the indicia 14, 16, 18, whereby the areas overlying the indicia 14, 16, 18 are elevated with respect to the surrounding portions of the label 10. In the exemplary label 10, the primer layer 22 and the tactile coating 24 are UV cured acrylic coatings, such as Clear Extender No. 4929 available from Sun Chemical Corporation, Northlake, Illinois, but other coatings suitable for application to a label and which can be applied in successive layers may be used as well.

With continued reference to FIG. 2, the label 10 further includes an adhesive layer 30 which is applied to a second side 32 of the facestock 12, generally opposite the first side 20 on which the indicia 14, 16, 18, primer 22, and tactile coating 24 are applied. Adhesive 30 may be applied to label 10 by the label manufacturer, or it may be applied immediately prior to application of the label to a container. When the labels are provided in "cut- and-stack" form, the labels are generally provided without adhesive and the labeling machine includes a station for applying the adhesive prior to application on the containers. The adhesive 30 may be a pressure-sensitive adhesive, heat-activated adhesive, water-activated adhesive, solvent-based, acrylic-based, or any other type of adhesive which is suitable for adhering a label 10 to a surface. In a preferred embodiment, the adhesive is transparent; adheres to glass, polymeric materials, and

cellophane; sets quickly; and is relatively impervious to moisture and temperature fluctuations.

Referring to FIG. 3, there is shown another exemplary embodiment of the label 10 wherein the indicia 16, 18 are applied to the second side 32 of the facestock 12. When the facestock 12 is formed from a clear or partially transparent cellophane material, the indicia 16, 18 will be viewable from the first side 20 of the facestock 12. Accordingly, the images and lettering comprising the indicia 16, 18 will generally be applied to the second side 32 in reverse image so that they may be properly viewed from the first side 20. Advantageously, the clear cellophane material provides a protective barrier for the visible indicia 16, 18. In this embodiment, the tactile coating layers 24 may be selectively applied to discrete areas of the first side 20 of the facestock 12 to create the desired raised portions.

Referring to FIG. 5, there is shown an exemplary container 40 including a label 10 of the present invention. Advantageously, the raised portions of the inventive label 10 provide a tactile feel to the label 10 which is not present on prior art labels. The tactile feel may provide a gripping surface for a container 40 to which the label is applied, and/or may increase the aesthetic appearance of the labels 10. The label 10 may be applied to the container 40 by various means, such as automatic equipment configured to receive labels 10 provided in a stack, dispense individual labels 10 from the stack, apply adhesive to the labels 10, and apply the labels 10 to individual containers 40. Exemplary labeling machines useful

for applying labels provided in stack form are the Promatic, Universella® , Variomatic, Robusta® , and Vinetta® labeling machines available from Krones, Inc., Franklin, Wisconsin.

In another exemplary embodiment (FIG. 4), a label 10 according to the present invention comprises a facestock material 12 formed from cellophane that is cut, or otherwise formed into a discrete label shape. The facestock 12 has a first side 20 and a second 32 and visible indicia 16, 18 are screen printed to selective portions of one or both sides 20, 32 of the facestock 12, without tactile feel layers, to create letters, numbers, borders, decorative designs, or various combinations thereof. The label 10 may further include hot stamped foil or embossed images, borders, backgrounds, or designs applied to the facestock, as may be desired, to create various aesthetic effects. Adhesive 30 may be applied to the second side 32 of label 10 as pre-applied adhesive, or it may be applied prior to application of the label 10 to a container, as described above. Alternatively, adhesive 30 may be applied to the first side 20 of facestock 12, over the screen-printed indicia 16, 18. This construction may be used when the facestock 12 is at least partially transparent, whereby indicia 16, 18 printed in reverse image will be visible through the facestock 12.

These exemplary embodiments provide relatively low cost labels having improved aesthetic appearance. Advantageously, a plurality of labels constructed as described above may be provided in a stack, commonly referred to as "cut-and-stack" form (see FIG. 6), for dispensing and application to individual containers by a labeling machine.

An exemplary adhesive coated label 10 of the present invention may be made by applying visible indicia 16, 18 to a facestock 12 formed from cellophane. One or more tactile coating layers 24 may be applied to discrete areas of the facestock 12 to create distinct raised portions on the label 10. The indicia 16, 18 and tactile coating layers 24 may be applied to facestock 12 comprising an elongate sheet of cellophane, whereafter discrete label shapes are die cut using, for example, conventional equipment such as shown and described in the attached brochure.

10 While the present invention has been illustrated by the description of the various embodiments thereof, and while the embodiments have been described in considerable detail, it is not intended to restrict or in any way limit the scope of the appended claims to such detail.

Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and methods and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the scope or spirit of the general inventive concept

20 WHAT IS CLAIMED IS: